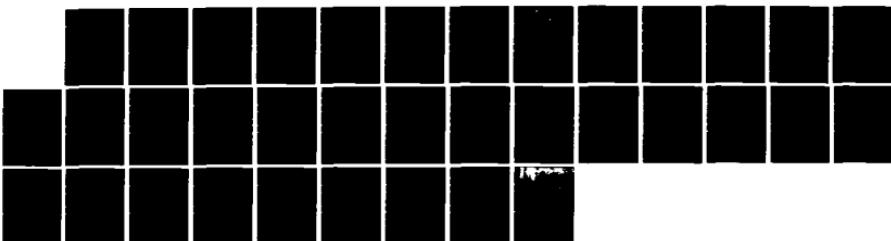
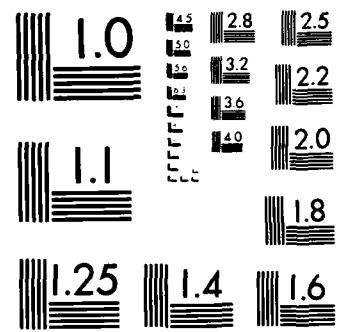


AD-A131 919 19310 MLRS MISSILE NUMBERS BN-308 BN-317 BN-310 BN-320 1/1
BN-312 BN-322 ROU. (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER JUL 83
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

(12)

AD A 131919

METEOROLOGICAL DATA REPORT

19310A MLRS
Missile Number BN-308, BN-317,
BN-310, BN-320, BN-322
Round Number 485/DL-25 thru 490/DL-30
29 July 1983

by

DONALD C. KELLER
Program Support Coordinator
Phone Number (505) 679-9568
AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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1. REPORT NUMBER DR 1312	2. GOVT ACCESSION NO. AD-A131919	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19310A MLRS Missile Number BN-308, BN-317, BN-310, BN-320, BN-312, BN-322 Round Number 485/DL-25 thru 490/DL-30	5. TYPE OF REPORT & PERIOD COVERED	
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19310A MLRS, Missile Number BN-308, BN-317, BN-310, BN-320, BN-312, BN-322, Round Number 485/DL-25 thru 490/DL-30 are presented in tabular form.		

CONTENTS

	PAGE
INTRODUCTION -----	1
DISCUSSION -----	1
GENERAL AREA MAP -----	2
LAUNCH AREA DIAGRAM -----	3
 TABLES:	
1. Surface Observation taken at 0915 MDT at Brillo -----	4
2. Anemometer Measured Wind Data at 30 FT. AGL -----	5
3. Anemometer Measured Wind Data at 60 FT. AGL -----	6
4. Anemometer Measured Wind Data at 90 FT. AGL -----	7
5. Launch and Impact Area Pilot-Balloon Measured Wind Data -----	8
6. Aiming and T-Time Computer Met Messages -----	9
7. E-28 Significant Level Data at 0615 MDT -----	10
8. E-28 Upper Air Data at 0615 MDT -----	12
9. E-28 Mandatory Levels at 0615 MDT -----	16
10. Jallen Significant Level Data at 0800 MDT -----	17
11. Jallen Upper Air Data at 0800 MDT -----	19
12. Jallen Mandatory Levels at 0800 MDT -----	23
13. E-28 Significant Level Data at 0915 MDT -----	24
14. E-28 Upper Air Data at 0915 MDT -----	26
15. E-28 Mandatory Levels at 0915 MDT -----	30

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INTRODUCTION

19310A MIRS, Missile Numbers BN-308, BN-317, BN-310, BN-320, BN-312, and BN-322, Round Numbers 485/DL-25 thru 490/DL-30, were launched from Brillo, White Sands Missile Range (WSMR), New Mexico, at 0915:01, 0915:05, 0915:10, 0915:14, 0915:19, and 0915:23 MDT, 29 JUL 83. The scheduled launch times were 0915 MDT with a 4.5 second separation.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the Brillo Met Site at T-0 minutes.

(2) Anemometer data were provided from existing tower-mounted anemometers at Brillo. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

SITE AND ALTITUDE

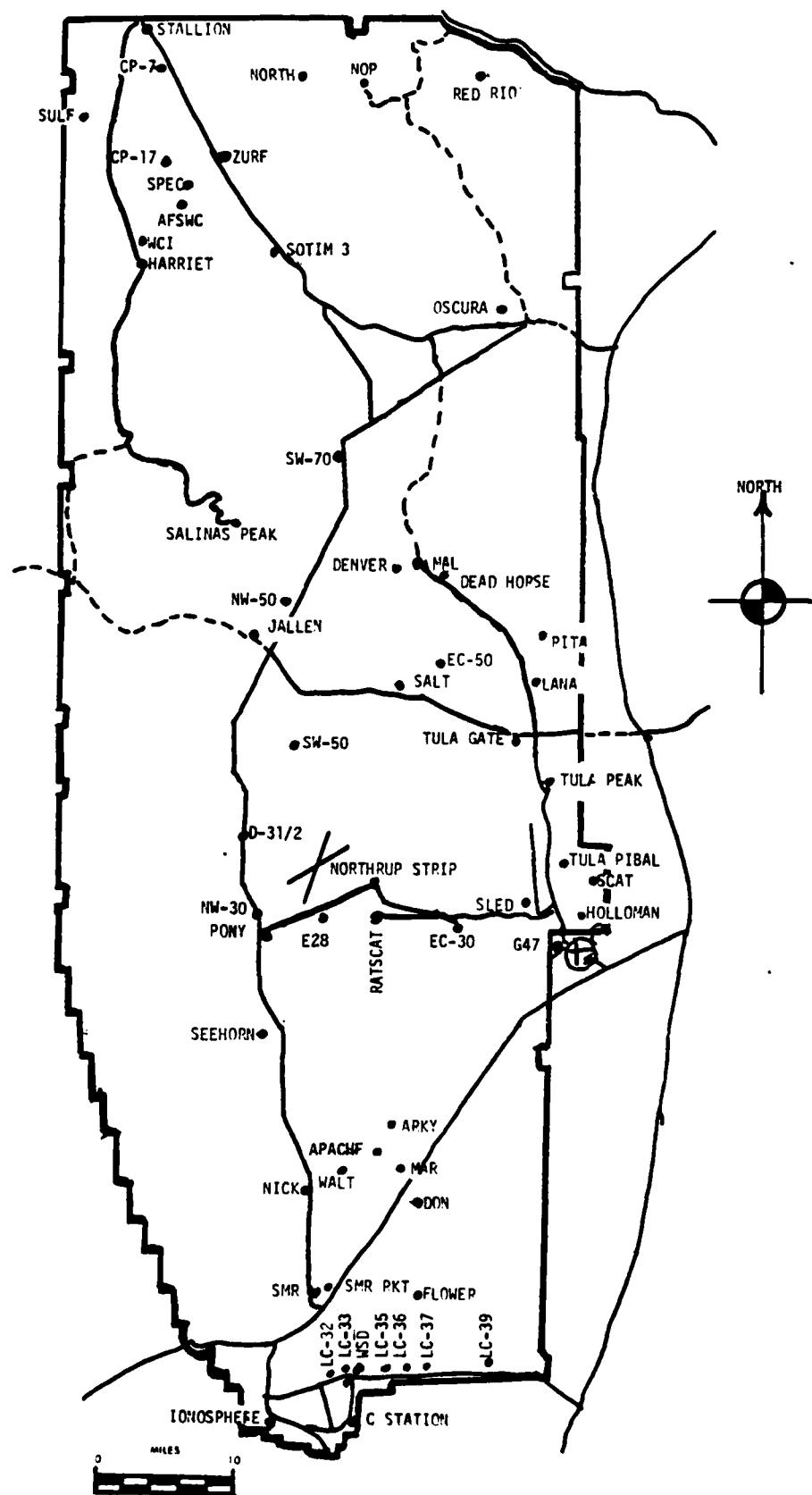
D 3½	2 Km
Mal	2 Km

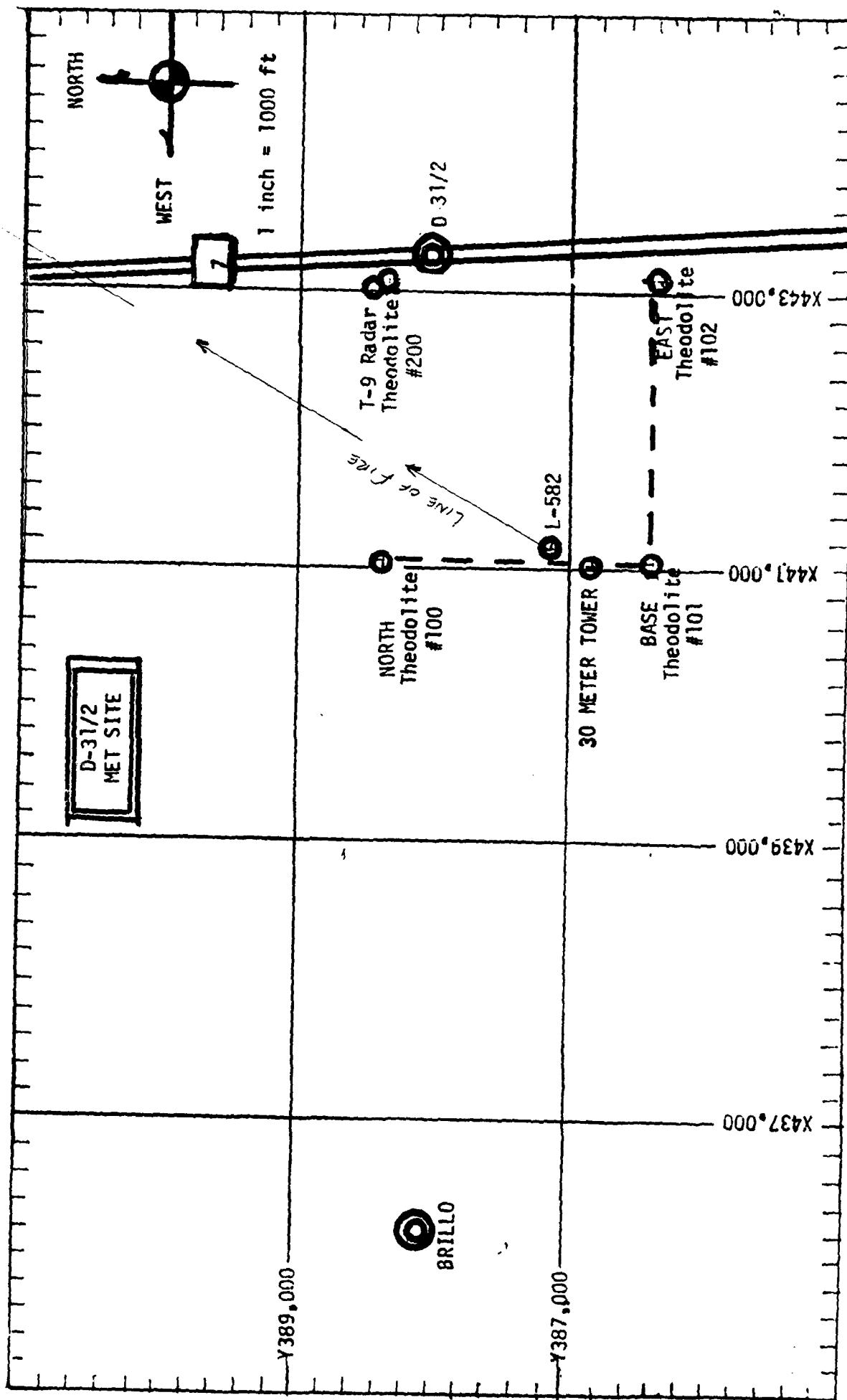
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME

E-28	0615 MDT
JALLEN	0800 MDT
E-28	0915 MDT

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1

DATE 29 JUL - 83
AT 0915

TIME H D T	PRESSURE inches Hg	TEMPERATURE °F	DEW POINT °C	RELATIVE HUMIDITY %	RELATIVE HUMIDITY %	WIND deg kts	CHARACTER kts	VISIBIL- ITY
0915	880.9	29.2	12.5	36	34	240	04	20

OBSTRUCTIONS TO VISIBILITY	CLOUDS			REMARKS		
	1st LAYER	2nd LAYER	3rd LAYER	AMT	TYPE	HGT
	1	SC	6000	4	AC	12500
				1	CI	25000
						H ALQDS

PSYCHOPMETRIC COMPUTATION

TIME:	MDT	0915			
DRY BULB TEMP.		29.2			
WET BULB TEMP.		18.1			
WET BULB DEPR.		11.1			
DEW POINT		12.5			
RELATIVE HUMID.		36			

TABLE 2

Anemometer Data - 30 FT. Level of 30 Meter Tower

X= 441,018.71 Y= 336,349.19 H= 4,004.80 (BASE)

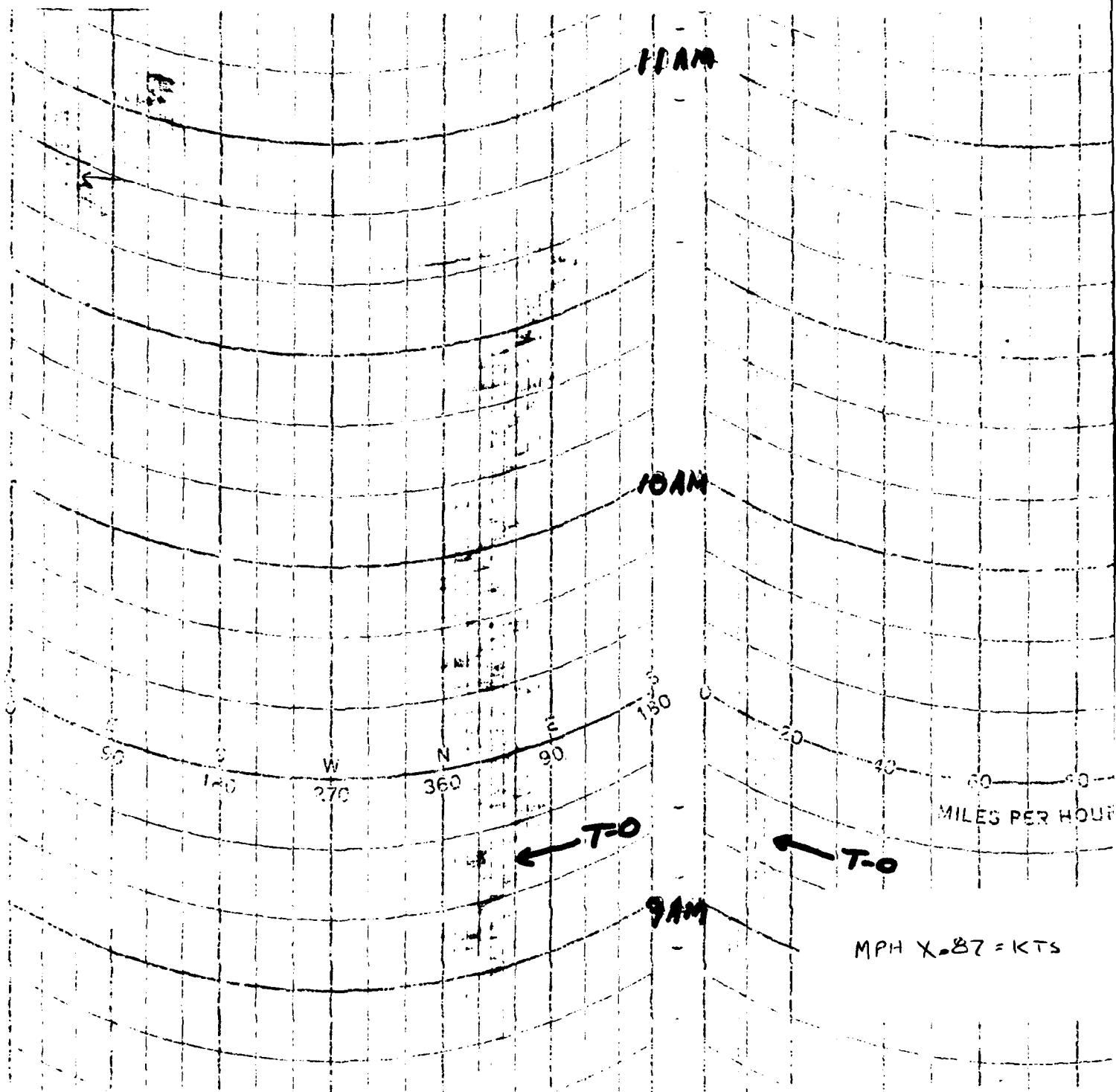


TABLE 3

Anemometer Data = 60 FT. Level of 30 Meter Tower

X= 441,018.71 Y= 386,349.19 H= 4,004.00 (BASE)

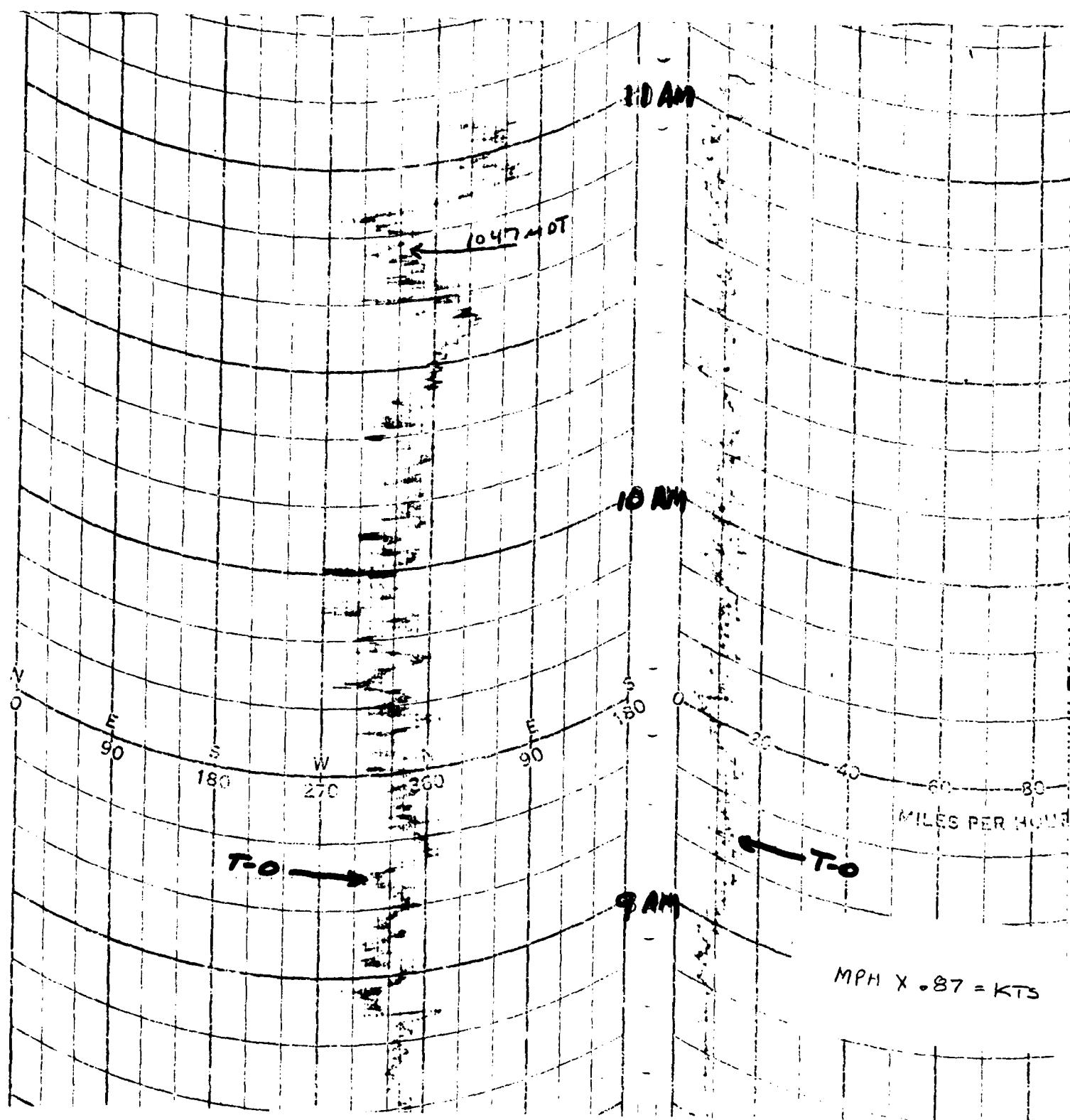


TABLE . 4

Anemometer Data - 90 FT Level of 30 Meter Tower

X= 441,018.71 Y= 336,349.19 H= 4,004.80 (BASE)

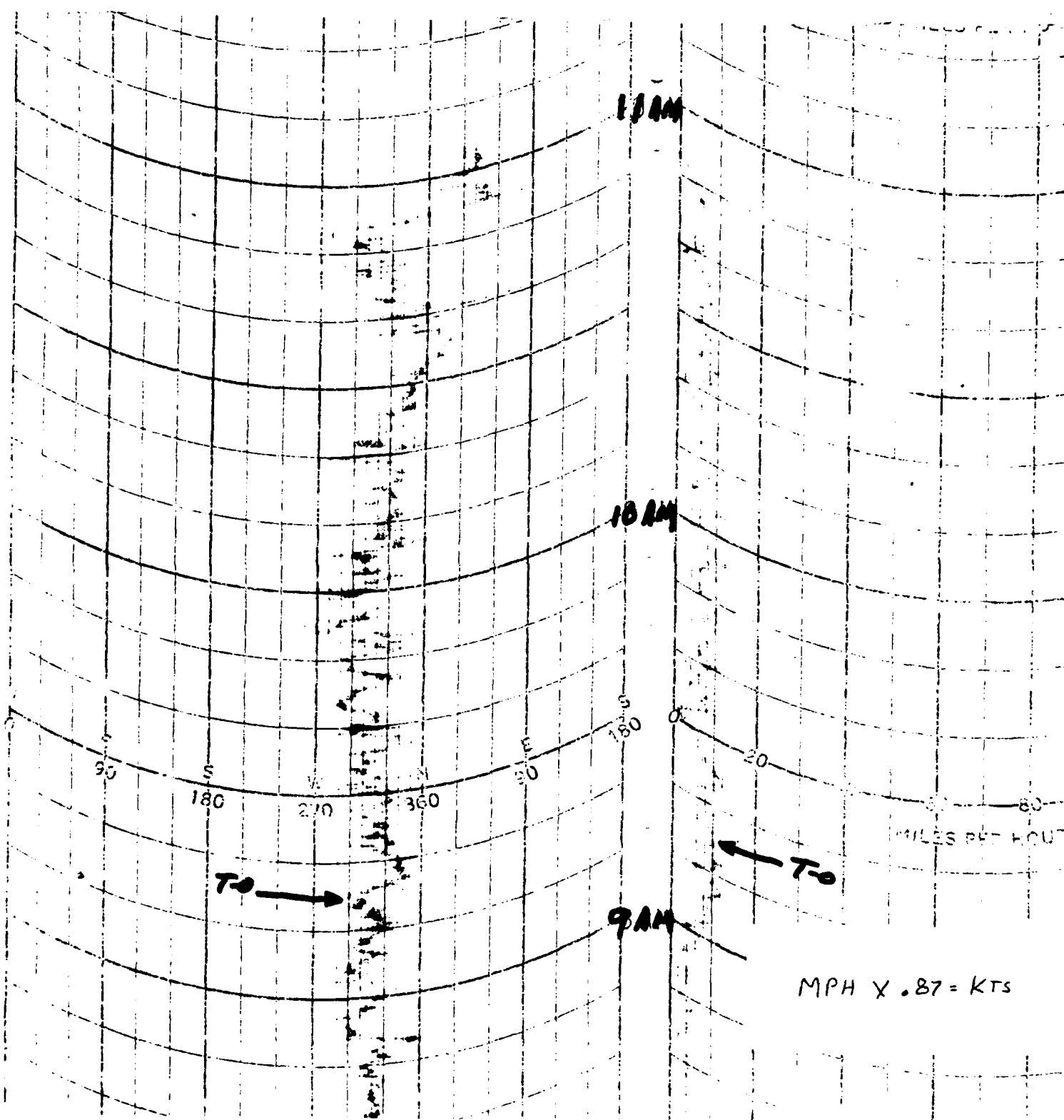


TABLE 5

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 29 JUL 83

SITE: D 3½
 TIME: 0915 MDT
 WSTM COORDINATES:
 X= 443,093.12
 Y= 386,316.94
 H= 3,962.25

SITE: MAL
 TIME 0915 MDT
 WSTM COORDINATES:
 X= 509,421.05
 Y= 495,563.18
 H= 4,126.81

LAYER	MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		340	04
150		357	15
210		357	17
270		355	16
330		353	16
390		352	15
500		351	11
650		357	10
800		001	12
950		002	13
1150		011	10
1350		052	07
1550		066	07
1750		112	06
2000		132	08

Data obtained from a Single Theodolite
tracked Pilot-Balloon observation.

LAYER	MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		350	10
150		007	14
210		015	13
270		023	13
330		028	12
390		030	12
500		030	10
650		030	07
800		040	04
950		085	05
1150		122	05
1350		106	07
1550		099	09
1750		106	08
2000		096	14

Data obtained from a Double Theodolite
tracked Pilot-Balloon observation.

TABLE 6

AIMING AND T-TIME COMPUTER MET MESSAGES

29 July 1983

E-28	0615 MDT	JALLEN	0800 MDT	E-28	0915 MDT
METCM1329065		METCM1332065		METCM1329065	
291230119883		291400124880		291530119885	
00089002	29800883	00018002	29940880	00604003	30140885
01610009	29970873	01006004	29950870	01606008	30130875
02036003	30050849	02048012	29920845	02080002	29970851
03193002	29890811	03084007	29700807	03118003	29730812
04310003	29470766	04173005	29440762	04219007	29440767
05207006	29050723	05196012	29030719	05203007	29070724
06170010	28630681	06197011	28600678	06171011	28670682
07197009	28160641	07192014	28150638	07176014	28250642
08209012	27700603	08200017	27700600	08186016	27780605
09210013	27280567	09213014	27260564	09202015	27330568
10187008	26910533	10144005	26910530	10180012	26980534
11247004	26660500	11201004	26610497	11143009	26690501
12281008	26140454	12210006	26090451	12183008	26190455
13160007	25570398	13231010	25490395	13265015	25670399
14193012	24900347	14244013	24820345	14234014	25000349
15241014	24080302	15232011	24070300	15214014	24220304
16281011	23360262	16256012	23270260	16214013	23390263
17322015	22480226	17322016	22470224	17242014	22560227
18308016	21740194	18298013	21670192	18265016	21920195
19343008	21090165	19271010	21140164	19306013	21280166
20361016	20650140	20348017	20590139	20347015	20670142
21312016	20270119	21330018	20220118	21308019	20340120
22307012	20160100	22193015	20080100	22269011	20250101
23157016	20470085	23197015	20550084	23170021	20470086
24206020	21030072	24181017	21290072	24234016	21160073
25164015	21280062	25185018	21430061	25169016	21310062
26144021	21430052	26177018	21510052	26161022	21400053

STATION ALTITUDE 3912.75 FEET MSL
29 JULY 83 0615 MDT
ASCENSION NO. 41

SIGNIFICANT LEVEL DATA
210029041
EAST-20/CHERRY

GEODETIC COORDINATES
32°89927 LAT DEG
136°40591 LON DEG

TABLE 7

PRESSURE GEONETRIC MILLIBARS MSL FEET	ALTITUDE DEGREES	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
883.4	3912.7	22.9	12.6	53.0
874.2	4213.5	24.4	12.0	40.0
870.3	4342.5	25.0	12.5	43.0
850.0	5024.8	25.3	11.5	42.0
834.2	5567.2	26.0	10.5	37.0
700.0	10538.1	14.0	2.5	45.0
687.5	11030.9	12.8	0.9	44.0
607.8	14384.6	3.4	-1.2	72.0
548.4	17098.4	-3.4	-5.9	96.0
523.9	18284.0	-5.8	-8.2	97.0
500.0	19486.6	-7.1	-8.0	93.0
486.9	20167.3	-8.1	-10.0	80.0
468.3	21158.1	-11.2	-11.6	97.0
448.5	22247.4	-12.7	-13.1	97.0
430.4	23278.4	-15.0	-15.4	97.0
418.3	23988.1	-15.5	-18.4	78.0
408.1	24600.2	-16.7	-26.5	42.0
400.0	25095.4	-17.3	-27.6	40.0
365.6	27296.7	-21.3	-32.1	37.0
361.6	27563.2	-22.5	-35.9	28.0
341.1	28966.8	-25.0	-36.2	34.0
325.1	30110.6	-27.6	-36.7	41.0
300.0	31092.4	-33.1	-36.7	57.0
281.0	33495.2	-37.0	-41.4	63.0
268.5	34527.7	-38.9	-47.1	41.0
250.0	36125.9	-43.3		
200.0	40956.8	-54.3		
182.2	42207.1	-58.5		
167.4	44650.9	-61.4		
150.0	46867.0	-66.7		
142.2	47934.4	-65.7		
122.2	50039.7	-70.1		
109.9	53011.3	-72.0		
105.9	53734.0	-70.9		
100.0	54052.0	-71.8		
95.4	55765.7	-73.0		
92.7	56325.7	-69.7		
86.7	57639.5	-70.4		
83.6	58358.3	-67.5		
76.3	60197.5	-64.7		

STATION ALTITUDE 3,120.75 FEET MSL
2^o JULY 83 0615 MDT
ASCENSION NO. 41

SIGNIFICANT LEVEL DATA
2100290041
FAST-28/CHILLY
TABLE 7 CON'T

GEOGRAPHIC COORDINATES
32° 89' 27" LAT DEG
136° 40' 59" LON 146

PRESSURE GEOMETRIC MILLIBARS	ALTITUDE MSL FEET	TEMPERATURE DEGREES	REL. HUM. PERCENT
70.0	61030.5	-61.4	
50.0	63077.1	-50.6	
40.7	73200.9	-52.8	

STATION ALTITUDE 5912.75 FEET MSL
29 JULY 63 0615 MDT
ASCENSION NO. 41

UPPER AIR DATA
2100290041
LAST-28/CHERRY

GEOMETRIC ALTITUDE AIR TEMPERATURE
IN FEET MILLIBARS DEGREES CENTIGRADE
10000.0 882.4 22.9
9000.0 880.7 23.3
4500.0 865.6 25.7
5000.0 850.7 25.3
5500.0 835.1 25.9
6000.0 821.6 25.0
6500.0 807.2 23.7
7000.0 795.1 22.5
7500.0 779.2 21.3
8000.0 765.6 20.1
8500.0 752.2 18.9
9000.0 739.0 17.7
9500.0 725.1 16.5
10000.0 712.4 15.3
10500.0 700.9 14.1
11000.0 686.4 12.9
11500.0 675.9 11.5
12000.0 665.6 10.1
12500.0 651.5 8.7
13000.0 639.6 7.3
13500.0 627.9 5.9
14000.0 616.5 4.5
14500.0 605.1 3.1
15000.0 595.8 1.9
15500.0 582.6 .6
16000.0 571.7 -.6
16500.0 561.0 -.9
17000.0 550.4 -3.2
17500.0 540.0 -4.2
18000.0 529.7 -5.2
18500.0 519.5 -6.0
19000.0 509.5 -6.6
19500.0 499.7 -7.1
20000.0 490.1 -7.9
20500.0 480.6 -9.1
21000.0 471.2 -10.7
21500.0 462.0 -11.7
22000.0 452.9 -12.4
22500.0 444.0 -13.3
23000.0 435.2 -14.4

GEOMETRIC ALTITUDE IN FEET	PRESSURE MILLIBARS	AIR DEGREES	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	SOUND METER	DENSITY GM/CUBIC METER	SPEED KNOTS	WIND DATA DIRECTION DEGREES(TIN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3912.7	882.4	22.9	12.8	53.0	1032.9	072.4	50.0	1.9	1.000294	
4000.0	880.7	23.3	12.6	51.0	1028.3	072.9	51.1	2.0	1.000292	
4500.0	865.6	25.7	12.1	42.8	1002.8	075.5	57.1	2.1	1.000283	
5000.0	850.7	25.3	11.5	42.0	987.0	075.1	62.3	2.2	1.000278	
5500.0	835.1	25.9	10.4	37.6	968.4	075.6	67.0	2.4	1.000269	
6000.0	821.6	25.0	9.5	37.7	954.0	074.5	68.0	1.7	1.000264	
6500.0	807.2	23.7	8.8	38.5	942.1	073.1	137.7	1.4	1.000259	
7000.0	795.1	22.5	8.0	39.3	929.6	071.6	169.5	1.3	1.000254	
7500.0	779.2	21.3	7.2	40.1	917.2	070.2	166.1	1.9	1.000249	
8000.0	765.6	20.1	6.4	40.9	905.1	068.8	144.7	3.3	1.000244	
8500.0	752.2	18.9	5.6	41.7	893.1	067.3	141.5	4.5	1.000240	
9000.0	739.0	17.7	4.8	42.5	881.2	065.9	137.2	5.5	1.000235	
9500.0	725.1	16.5	4.0	43.3	869.6	064.4	117.0	6.6	1.000231	
10000.0	712.4	15.3	3.2	44.1	858.1	063.0	104.0	8.3	1.000226	
10500.0	700.9	14.1	2.5	44.9	846.8	061.6	95.9	10.2	1.000222	
11000.0	686.4	12.9	1.0	44.1	835.4	060.1	95.1	9.5	1.000217	
11500.0	675.9	11.5	.8	47.9	824.2	058.5	96.6	8.3	1.000214	
12000.0	665.6	10.1	.7	52.1	813.1	056.9	102.8	7.9	1.000212	
12500.0	651.5	8.7	.5	56.2	802.3	055.2	108.8	8.2	1.000209	
13000.0	639.6	7.3	.1	60.4	791.0	053.6	112.8	9.6	1.000206	
13500.0	627.9	5.9	-.3	64.6	781.1	051.9	114.5	10.7	1.000203	
14000.0	616.5	4.5	-.7	68.8	770.8	050.3	115.2	11.5	1.000200	
14500.0	605.1	3.1	-1.2	73.0	760.4	048.7	117.1	12.1	1.000197	
15000.0	595.8	1.9	-1.7	77.4	749.6	047.2	119.2	12.7	1.000194	
15500.0	582.6	.6	-2.1	81.9	738.9	045.7	121.6	13.3	1.000191	
16000.0	571.7	-.6	-2.6	86.3	728.4	044.2	120.1	13.4	1.000188	
16500.0	561.0	-.9	-3.2	90.7	718.1	042.7	114.3	13.0	1.000185	
17000.0	550.4	-3.2	-3.8	95.1	708.6	041.2	109.7	11.6	1.000182	
17500.0	540.0	-4.2	-4.7	96.3	697.3	039.7	105.4	9.7	1.000178	
18000.0	529.7	-5.2	-5.7	96.8	686.7	038.6	105.1	6.3	1.000174	
18500.0	519.5	-6.0	-6.5	96.3	675.7	037.6	109.4	4.6	1.000170	
19000.0	509.5	-6.6	-7.3	94.6	664.1	036.9	119.0	4.4	1.000167	
19500.0	499.7	-7.1	-8.1	92.9	652.8	036.2	132.0	6.0	1.000163	
20000.0	490.1	-7.9	-9.5	87.7	642.1	035.5	139.4	8.0	1.000159	
20500.0	480.6	-9.1	-10.5	89.7	632.8	033.7	149.6	8.2	1.000156	
21000.0	471.2	-10.7	-11.5	95.2	624.2	031.8	158.9	8.7	1.000153	
21500.0	462.0	-11.7	-12.0	97.0	614.5	030.6	165.0	8.9	1.000150	
22000.0	452.9	-12.4	-12.7	97.0	603.9	029.7	169.9	8.9	1.000147	
22500.0	444.0	-13.3	-13.0	97.0	594.1	028.6	164.3	7.4	1.000144	
23000.0	435.2	-14.4	-14.7	97.0	584.9	027.2	155.7	6.3	1.000141	

GEODETIC COORDINATES
32.89927 LAT DEG
136.40591 LON DEG

STATION ALTITUDE 3912.75 FEET MSL
29 JULY 83
ASCENSION NO. 41

UPPER AIR DATA
2100290041
EAST-20°/CHERRY

GEODETIC COORDINATES
32.09927 LAT UEG
136.40591 LON UEG

TABLE 8 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	SPD OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (IN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	420.6	-15.2	-16.3	91.1	575.1	626.2	143.9
24000.0	418.1	-15.5	-18.0	77.3	564.6	625.7	129.2
24500.0	409.8	-16.5	-21.9	47.9	555.8	624.3	113.0
25000.0	401.5	-17.2	-27.4	40.4	546.2	623.5	90.9
25500.0	393.4	-18.0	-28.4	39.4	537.0	622.4	74.6
26000.0	385.5	-18.9	-29.4	38.8	528.0	621.3	70.2
26500.0	377.7	-19.9	-30.4	38.1	519.2	620.2	72.3
27000.0	370.1	-20.8	-31.5	37.4	510.6	619.1	80.3
27500.0	362.5	-22.2	-35.0	30.1	503.1	617.2	92.3
28000.0	355.1	-23.3	-36.0	29.9	494.9	615.9	102.4
28500.0	347.8	-24.2	-36.1	32.0	486.5	614.8	109.5
29000.0	340.6	-25.0	-36.2	34.2	478.2	613.7	115.8
29500.0	333.5	-26.2	-36.4	37.3	470.4	612.3	122.3
30000.0	326.6	-27.3	-36.7	40.3	462.8	610.9	126.8
30500.0	319.7	-28.7	-37.0	44.3	455.6	609.1	129.6
31000.0	313.0	-30.2	-37.5	48.6	448.7	607.3	131.7
31500.0	305.4	-31.7	-39.0	52.8	441.8	605.5	133.6
32000.0	299.9	-33.1	-38.7	57.0	435.1	603.7	137.0
32500.0	293.4	-34.4	-39.6	59.0	428.1	602.0	140.9
33000.0	287.1	-35.7	-40.5	61.0	421.2	600.4	145.8
33500.0	280.9	-37.0	-41.4	62.9	414.4	598.7	149.4
34000.0	274.8	-37.9	-44.0	52.2	406.9	597.5	150.3
34500.0	268.8	-38.8	-46.9	41.6	399.7	596.4	149.4
35000.0	262.9	-40.2	-51.3	28.9**	393.1	594.6	148.0
35500.0	257.1	-41.6	-57.3	16.1**	386.7	592.9	157.5
36000.0	251.4	-43.0	-70.2	3.2**	380.5	591.1	165.9
36500.0	245.7	-44.2			373.6	589.5	173.7
37000.0	240.1	-45.3			367.1	588.1	178.7
37500.0	234.6	-46.4			360.5	586.6	181.8
38000.0	229.3	-47.6			354.1	585.1	183.2
38500.0	224.0	-48.7			347.7	583.6	184.0
39000.0	218.9	-49.8			341.5	582.2	180.6
39500.0	213.9	-51.0			335.4	580.7	176.9
40000.0	209.0	-52.1			329.5	579.2	172.7
40500.0	204.5	-53.3			323.6	577.7	169.7
41000.0	199.6	-54.4			317.8	576.2	169.9
41500.0	194.9	-55.5			311.9	574.8	171.2
42000.0	190.3	-56.5			306.0	573.4	174.1
42500.0	185.8	-57.6			300.3	571.9	176.6
43000.0	181.4	-58.7			294.6	570.6	179.6

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3912.75 FT MSL
29 JULY 83
ASCENSION NO. 41

UPPER AIR DATA
2100290041
EAST-28/CHIRRY

GEODETIC COORDINATES
32.89927 LAT LEG
136.40591 LON LEG

TABLE 8 CON'T

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREEES CENTIGRADE	REL. HUM. PERCENT	WIND SPEED KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
43500.0	17.0	-59.5	288.0	569.5	181.6	10.8	1.000064
44000.0	172.0	-60.3	282.0	568.3	184.9	8.8	1.000063
44500.0	160.0	-61.1	277.1	567.2	191.3	7.9	1.000062
45000.0	164.5	-62.2	271.8	565.8	197.2	7.5	1.000061
45500.0	160.5	-63.4	266.6	564.2	195.8	8.3	1.000059
46000.0	158.6	-64.6	261.0	562.6	194.7	9.6	1.000058
46500.0	152.4	-65.8	256.7	561.0	193.8	12.2	1.000057
47000.0	149.0	-66.6	251.3	559.9	195.7	14.1	1.000056
47500.0	145.3	-66.1	244.5	560.6	200.7	15.2	1.000054
48000.0	141.7	-65.8	238.1	561.0	205.7	15.5	1.000053
48500.0	138.2	-66.5	233.0	560.0	211.1	15.3	1.000052
49000.0	134.8	-67.3	228.0	559.0	208.1	15.5	1.000051
49500.0	131.4	-68.0	223.1	558.0	203.2	15.8	1.000050
50000.0	128.1	-68.7	218.3	557.0	193.6	15.6	1.000049
50500.0	124.9	-69.5	213.7	556.0	184.4	15.8	1.000048
51000.0	121.8	-70.2	209.1	555.1	178.4	15.7	1.000047
51500.0	118.7	-70.6	204.2	554.4	172.6	15.7	1.000045
52000.0	115.7	-71.1	199.5	553.8	169.0	16.1	1.000044
52500.0	112.8	-71.5	194.9	553.2	166.5	16.6	1.000043
53000.0	110.0	-72.0	190.4	552.5	168.5	16.7	1.000042
53500.0	107.2	-71.3	184.9	553.6	171.0	16.4	1.000041
54000.0	104.5	-71.1	180.1	553.7	176.3	14.5	1.000040
54500.0	101.8	-71.5	175.9	553.2	180.5	12.7	1.000039
55000.0	99.2	-72.0	171.9	552.5	175.8	10.6	1.000038
55500.0	96.7	-72.7	168.0	551.6	166.7	8.5	1.000037
56000.0	94.3	-71.6	162.9	553.1	145.0	7.0	1.000036
56500.0	91.9	-69.8	157.4	555.6	116.4	6.8	1.000035
57000.0	89.6	-70.1	153.6	555.2	87.9	8.1	1.000034
57500.0	87.3	-70.3	150.0	554.8	75.6	11.0	1.000033
58000.0	85.1	-68.9	145.2	556.7	80.0	15.5	1.000032
58500.0	82.0	-67.3	140.5	559.0	85.4	20.0	1.000031
59000.0	81.0	-66.5	136.5	560.0	95.8	25.1	1.000030
59500.0	79.6	-65.8	132.0	561.0	102.5	29.1	1.000030
60000.0	77.0	-65.0	128.9	562.1	108.0	27.5	1.000029
60500.0	75.1	-64.1	125.2	563.3	113.6	25.7	1.000028
61000.0	73.3	-63.2	121.6	564.5	117.9	20.9	1.000027
61500.0	71.5	-62.2	118.1	565.8	123.4	16.7	1.000026
62000.0	69.8	-61.4	114.0	566.9	119.7	16.0	1.000026
62500.0	68.1	-61.2	111.9	567.2	115.7	15.3	1.000025
63000.0	66.5	-61.0	109.2	567.5	110.8	14.7	1.000024

STATION ALTITUDE 3,912.75 FEET MSL
 29 JULY 83 0615 MDT
 ASCENSION NO. 41

UPPER AIR DATA
 2100290041
 EAST-28/CHILKAT

GEODETIC COORDINATES
 32.89927 LAT DEG
 136.40591 LON DEG

TABLE 8 CON'T

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES, CENTIGRADE	REL. HUM. PERCENT	SPD OF GM/CURIE METER	WIND DATA DIRECTION DEGREES (TIN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
65500.0	64.9	-60.8		106.4	567.7	105.5	14.3
64400.0	65.3	-60.6		103.8	568.0	98.2	14.3
64500.0	61.8	-60.4		101.2	568.3	90.8	14.6
63300.0	60.5	-60.2		98.7	568.6	87.1	15.6
62500.0	56.9	-60.6		96.2	568.8	84.5	16.9
60000.0	57.6	-59.8		93.8	569.1	82.0	16.8
56500.0	59.1	-59.6		91.5	569.4	79.4	16.2
37000.0	54.6	-59.4		89.2	569.6	76.7	17.1
07500.0	53.5	-59.2		87.0	569.9	74.5	18.9
62000.0	52.2	-59.0		84.9	570.2	76.0	21.0
68500.0	50.9	-58.8		82.7	570.4	83.2	24.1
69000.0	49.7	-58.4		80.7	570.9	88.6	27.4
69500.0	48.5	-57.8		78.5	571.7	93.7	27.8
70000.0	47.4	-57.1		76.4	572.6	98.7	28.4
70500.0	46.3	-56.4		74.4	573.5	100.0	27.2
71000.0	45.2	-55.8		72.4	574.4	99.5	24.9
71500.0	44.1	-55.1		70.5	575.3		1.000016
72000.0	43.1	-54.4		68.7	576.2		1.000015
72500.0	42.1	-53.7		66.8	577.1		1.000015
73000.0	41.1	-53.1		65.1	577.9		1.000014

STATION ALTITUDE 3912.75 FEET MSL
 29 JULY 83 0615 MDT
 ASCENSION NO. 41

MANDATORY LEVELS
 2100290041
 EAST 28/CHIRAY

GEODETIC COORDINATES
 32.89927 LAT DEG
 136.40591 LON DEG

TABLE 9

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	AIR DEWPONT CENTIGRADE	KELV.HUM. PERCENT	WIND DATA	
					DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	5021.	25.3	11.5	42.	62.6	2.2
800.0	6767.	23.1	8.4	39.	154.4	1.3
750.0	8600.	18.7	5.5	42.	141.3	4.7
700.0	10528.	14.0	2.3	45.	95.4	10.4
650.0	12561.	8.5	4.4	57.	109.4	8.4
600.1	14712.	2.5	-1.4	75.	116.0	12.4
550.0	17001.	-3.2	-3.8	95.	109.6	11.6
500.0	19460.	-7.1	-6.0	93.	131.5	5.9
450.0	22130.	-12.6	-13.0	97.	168.4	8.4
400.0	25054.	-17.3	-27.6	40.	67.4	7.7
350.0	28278.	-23.9	-36.1	31.	107.3	12.3
300.0	31929.	-33.1	-38.7	57.	136.9	14.0
250.0	36047.	-43.3			167.7	12.7
200.0	40858.	-54.3			169.9	16.1
175.0	43629.	-59.9			182.7	9.8
150.0	46711.	-66.7			194.0	13.8
125.0	50350.	-69.4			184.8	15.8
100.0	54683.	-71.8			177.6	11.3
80.0	59042.	-66.2			99.0	27.4
70.0	61727.	-61.4			120.4	16.1
60.0	64873.	-60.1			86.7	15.8
50.0	68619.	-58.6			87.1	20.4

** AT LAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

SATION ALTITUDE 10100 F.E.T MSL
29 JULY 03 0800 MDT
ASCENSIO 10. 100

SIGNIFICANT LEVEL DATA
2100030103
JALLEN

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 10

PRESSURE GEOMETRIC MILLIBARS MSL	ALTITUDE FEET	TEMPERATURE DEGREES CENTIGRADE	AIR DEPOINT DEGREES CENTIGRADE	HELIUM PERCENT
879.5	4051.0	24.5	10.0	42.0
875.5	4182.2	24.8	6.1	30.0
856.7	4807.7	25.5	7.6	32.0
856.0	5034.1	25.0	6.2	30.0
801.2	6728.8	21.9	7.7	40.0
774.9	7679.7	21.2	6.7	59.0
716.1	9903.4	15.7	2.2	40.0
700.0	10536.2	14.2	1.5	42.0
614.9	14074.1	4.7	-2.0	54.0
576.1	15809.3	1.1	-4.9	69.0
553.7	16849.2	-2.9	-5.7	94.0
500.0	19489.6	-7.4	-7.9	96.0
463.8	21405.2	-10.9	-13.2	82.0
440.6	22695.3	-14.4	-14.6	97.0
423.0	23710.0	-16.1	-16.3	98.0
414.8	24195.3	-16.4	-16.6	97.0
400.0	25093.0	-17.7	-24.3	56.0
379.2	26401.6	-20.4	-29.9	42.0
337.5	29208.5	-26.2	-37.3	34.0
360.0	31079.2	-32.3	-41.5	39.0
286.5	33041.5	-35.6	-43.2	45.0
267.5	34603.0	-38.9	-40.9	42.0
250.0	36126.0	-42.6		
230.4	37019.1	-46.9		
200.0	40054.0	-54.9		
189.7	42061.0	-57.6		
170.9	44220.6	-60.0		
150.0	46071.4	-65.4		
125.1	50073.6	-70.0		
111.4	52737.9	-72.2		
104.4	54000.0	-71.6		
100.0	54034.8	-73.5		
93.6	56111.0	-73.5		
93.3	56173.6	-69.6		
79.2	59670.9	-66.2		
73.2	61021.5	-59.2		
70.0	61247.0	-58.9		
57.6	65087.0	-58.9		
50.0	68929.5	-57.7		
42.4	72393.2	-53.9		

STATION ALTITUDE 4051.00 FEET MSL
29 JULY 83 0800 MDT
ASCENSION NO. 103

SIGNIFICANT LEVEL DATA

2100030103

JALLEN

TABLE 10 CONT

PRESSURE GEOMETRIC
MILLIBARS MSL FLET

35.9 75042.2

TEMPERATURE
AIR DEWPOINT
DEGREES CENTIGRADE

-52.5

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

STATION ALTITUDE 4051.00 FEET MSL
29 JULY 03 0800 MDT
ASCENSION NO. 103

UPPER AIR DATA
2100030103
JALLEN

TABLE 11

GEOPHYSIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWEPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DEFN. HUM. GM/CUBIC METER	SOUND KNOTS	WIND DATA DIR/ELCTN DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
4051.0	1079.5	24.5	10.0	42.0	1023.6	674.0	10.0	1.9
4500.0	865.9	25.2	6.9	31.0	1006.8	674.3	26.0	4.3
5000.0	851.9	25.1	6.4	30.3	989.8	674.2	30.9	7.0
5500.0	936.3	24.1	6.8	32.7	975.6	673.2	33.0	9.7
6000.0	821.8	23.2	7.2	35.7	961.4	672.3	36.4	10.5
6500.0	807.6	22.3	7.0	38.7	947.6	671.3	40.8	8.1
7000.0	793.6	21.7	7.4	39.7	933.0	670.6	60.4	6.5
7500.0	779.8	21.3	6.9	39.2	918.0	670.2	76.2	5.6
8000.0	765.1	20.4	6.1	39.1	905.0	669.0	94.4	5.5
8500.0	752.7	19.2	5.0	39.4	893.0	667.5	110.3	6.1
9000.0	739.4	17.9	4.0	39.6	881.3	666.1	115.1	7.7
9500.0	726.4	16.7	3.0	39.8	869.6	664.6	112.7	10.3
10000.0	713.6	15.5	2.1	40.3	858.1	663.1	109.4	12.3
10500.0	700.9	14.3	1.5	41.9	846.4	661.7	106.3	14.1
11000.0	686.2	13.0	1.1	44.2	834.9	660.2	107.5	13.1
11500.0	675.7	11.6	0.6	46.6	823.7	658.6	108.7	12.1
12000.0	665.4	10.3	0.1	49.0	812.6	657.0	109.2	11.7
12500.0	651.4	8.9	-5.5	51.4	801.7	655.4	109.3	12.2
13000.0	639.6	7.6	-1.2	53.8	791.0	653.8	109.2	13.5
13500.0	626.0	6.2	-1.8	56.2	780.5	652.2	109.4	14.7
14000.0	613.6	4.9	-2.5	58.6	770.1	650.6	109.8	15.7
14500.0	605.1	3.6	-1.1	61.5	759.5	649.0	112.4	16.4
15000.0	595.9	2.2	-3.3	64.3	749.0	647.5	115.8	17.0
15500.0	582.6	0.9	-4.5	67.2	738.7	645.9	117.9	16.5
16000.0	571.9	-0.5	-4.0	73.6	728.5	644.3	120.0	15.7
16500.0	561.1	-1.9	-4.0	85.6	718.4	642.6	116.8	13.6
17000.0	550.5	-3.2	-4.0	94.1	708.1	641.1	111.7	11.4
17500.0	540.0	-4.0	-4.8	94.5	696.8	640.1	105.4	8.2
18000.0	529.6	-4.9	-5.6	94.9	685.7	639.0	84.5	5.2
18500.0	519.5	-5.7	-6.3	95.3	674.8	638.0	75.7	3.2
19000.0	509.6	-6.6	-7.1	95.6	664.1	636.9	65.1	1.6
19500.0	499.8	-7.4	-8.0	95.9	653.6	635.9	106.3	3.3
20000.0	490.1	-8.3	-9.3	92.5	643.2	634.7	110.0	5.3
20500.0	480.6	-9.2	-10.7	89.1	633.0	633.5	116.7	6.8
21000.0	471.2	-10.2	-12.1	85.8	623.0	632.4	117.6	7.6
21500.0	462.1	-11.2	-13.3	84.0	613.5	631.1	119.1	6.9
22000.0	453.0	-12.5	-13.9	89.5	604.4	629.5	119.3	6.3
22500.0	444.0	-13.9	-14.5	94.9	595.6	627.8	117.2	5.8
23000.0	435.2	-14.9	-15.2	97.3	586.2	626.5	116.1	6.0
23500.0	426.6	-15.7	-16.0	97.6	576.4	625.5	116.1	6.6

STATION ALTITUDE 6,511.00 FT MSL
29 JULY 6 J 0800 MDT
ASCENSION NO. 103

UPPER AIR DATA
2100030103
JALLEN

TABLE 11 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DIR/CLINIC METER	SPD OF WIND KNOTS	WIND DATA DEGREES (TIN) KNOTS	INDEX OF REFRACTION
24000.0	410.1	-16.3	-16.0	97.4	560.1	122.7	7.2
24500.0	409.7	-16.0	-19.0	83.1	556.2	126.9	6.2
25000.0	401.5	-17.6	-23.4	60.2	516.8	120.7	9.3
25500.0	393.4	-18.5	-26.0	51.6	537.9	121.8	1.000127
26000.0	385.5	-19.6	-28.1	46.3	529.2	120.6	1.000124
26500.0	377.7	-20.6	-30.2	41.7	520.7	119.3	1.000121
27000.0	369.9	-21.6	-31.5	40.3	512.1	118.0	1.000119
27500.0	362.3	-22.7	-32.8	38.9	503.7	116.7	1.000117
28000.0	354.9	-23.7	-34.1	37.4	495.4	115.4	1.000115
28500.0	347.6	-24.7	-35.4	36.0	487.3	114.1	1.000112
29000.0	340.4	-25.8	-36.8	34.6	479.3	112.8	1.000110
29500.0	333.3	-26.8	-37.7	34.5	471.3	111.5	1.000108
30000.0	326.3	-27.9	-38.5	35.4	463.5	110.1	1.000106
30500.0	319.5	-29.0	-39.2	36.3	455.8	108.7	1.000105
31000.0	312.8	-30.1	-40.0	37.2	448.3	107.4	1.000103
31500.0	306.2	-31.2	-40.8	38.1	440.6	106.0	1.000101
32000.0	299.7	-32.4	-41.6	39.1	433.6	104.6	1.000099
32500.0	293.3	-33.9	-42.3	41.9	427.0	102.6	1.000098
33000.0	287.0	-35.5	-43.2	44.8	420.0	100.7	1.000096
33500.0	280.8	-36.6	-44.3	44.1	413.4	99.3	1.000095
34000.0	274.7	-37.6	-45.5	43.2	406.2	97.9	1.000094
34500.0	268.7	-38.7	-46.7	42.2	399.2	96.6	1.000093
35000.0	262.8	-39.9	-50.4	31.0**	392.4	95.0	1.000092
35500.0	256.6	-41.1	-56.4	17.2**	385.8	93.5	1.000091
36000.0	251.3	-42.3	-69.5	3.3**	379.3	91.9	1.000090
36500.0	245.7	-43.5			372.8	90.4	1.000089
37000.0	240.2	-44.7			366.3	88.8	1.000088
37500.0	234.8	-45.9			360.0	87.5	1.000087
38000.0	229.5	-47.1			353.8	85.7	1.000086
38500.0	224.2	-48.4			347.6	84.0	1.000085
39000.0	219.1	-49.7			341.6	82.3	1.000084
39500.0	214.0	-51.1			335.7	80.6	1.000083
40000.0	209.1	-52.4			330.0	78.8	1.000082
40500.0	204.5	-53.7			324.3	77.1	1.000081
41000.0	199.6	-55.0			318.7	75.4	1.000080
41500.0	194.9	-56.2			312.9	73.8	1.000079
42000.0	190.3	-57.5			307.3	72.2	1.000078
42500.0	185.7	-58.1			300.8	71.5	1.000077
" 43000.0	181.3	-58.6			294.4	70.6	1.000076
+35000.0	177.0	-59.2			288.1	69.8	1.000075

** AT LAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN INTERPOLATION.

STATION ALTITUDE 4051.00' EET MSL
 29 JULY 83 0800 MDT
 ASCENSION 140. 10.3

UPPER AIR DATA
 2100030103
 JALLEN
 TABLE 11 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	KEL. HUM. PERCENT	FIELD OF VISION METER	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
44000.0	172.7	-59.8			282.0	569.1	147.1	9.8
44500.0	169.6	-60.6			276.2	568.0	146.6	9.5
45000.0	164.5	-61.6			270.8	566.7	147.3	9.4
45500.0	160.5	-62.6			265.5	565.3	155.5	9.3
46000.0	156.6	-63.6			260.3	563.9	165.7	9.4
46500.0	152.8	-64.6			255.2	562.5	190.6	12.4
47000.0	149.0	-65.6			250.1	561.3	205.9	17.5
47500.0	145.3	-66.2			244.6	560.4	207.2	19.4
48000.0	141.7	-66.8			239.3	559.6	206.8	20.5
48500.0	138.2	-67.5			234.1	558.7	198.4	18.5
49000.0	134.7	-68.1			228.9	557.8	182.2	16.0
49500.0	131.4	-68.8			223.9	557.0	175.1	15.9
50000.0	128.1	-69.4			219.1	556.1	179.3	17.1
50500.0	124.9	-70.0			214.3	555.2	162.7	16.1
51000.0	121.8	-70.5			209.3	554.6	185.1	16.6
51500.0	118.7	-71.0			204.3	553.9	185.6	16.7
52000.0	115.7	-71.5			199.8	553.2	182.9	16.1
52500.0	112.8	-72.0			195.3	552.6		
53000.0	109.9	-72.1			190.4	552.4		
53500.0	107.1	-71.8			185.4	552.8		
54000.0	104.4	-71.6			180.4	553.1		
54500.0	101.7	-72.7			176.9	551.5		
55000.0	99.1	-73.5			173.0	550.5		
55500.0	96.6	-73.5			168.6	550.5		
56000.0	94.1	-73.5			164.3	550.5		
56500.0	91.8	-69.3			156.8	556.2		
57000.0	89.5	-68.8			152.6	556.9		
57500.0	87.3	-68.3			148.4	557.6		
58000.0	85.1	-67.8			144.4	558.2		
58500.0	83.0	-67.3			140.3	558.9		
59000.0	80.9	-66.9			136.6	559.5		
59500.0	78.9	-66.4			132.9	560.2		
60000.0	77.0	-64.5			128.5	562.7		
60500.0	75.1	-61.9			123.9	566.2		
61000.0	73.3	-59.3			119.4	569.7		
61500.0	71.5	-59.0			116.4	570.0		
62000.0	69.8	-58.9			113.5	570.2		
62500.0	68.2	-58.9			110.8	570.2		
63000.0	66.5	-58.9			108.2	570.2		
63500.0	64.9	-58.9			105.6	570.2		

xx WIND DATA IN ALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 4,201.00 FEET MSL
29 JULY 03 0800 MDT
ASCENSION NO. 103

UPPER AIR DATA
2100030103
JALLEN

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LONG DEG

TABLE 11 CONT

GEODETIC ALTITUDE METERS	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF WIND DATA MILES/HOUR	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OR REFRACTION
64000.0	65.4	-53.9	103.1	570.2	1.000023			
64500.0	61.9	-58.9	100.6	570.2	1.000022			
65000.0	60.4	-58.9	98.2	570.2	1.000022			
65500.0	59.9	-58.9	95.9	570.2	1.000021			
66000.0	57.6	-53.9	93.6	570.2	1.000021			
66500.0	56.2	-58.7	91.3	570.5	1.000020			
67000.0	54.9	-58.5	89.0	570.6	1.000020			
67500.0	53.6	-58.3	86.8	571.1	1.000019			
68000.0	52.3	-58.1	84.7	571.3	1.000019			
68500.0	51.0	-57.9	82.6	571.6	1.000018			
69000.0	49.8	-57.6	80.5	571.9	1.000018			
69500.0	48.7	-57.1	78.5	572.7	1.000017			
70000.0	47.5	-56.5	76.4	573.4	1.000017			
70500.0	46.4	-56.0	74.4	574.1				
71000.0	45.3	-55.4	72.5	574.8				
71500.0	44.2	-54.9	70.6	575.6	94.5	24.2		
72000.0	43.2	-54.3	68.6	576.5	93.9	26.0		
72500.0	42.2	-53.9	67.0	576.9	93.4	27.2		
73000.0	41.2	-53.7	65.4	577.2	92.1	28.4		
73500.0	40.3	-53.5	63.8	577.4	88.6	28.9		
74000.0	39.3	-53.3	62.3	577.7	84.7	27.5		
74500.0	38.4	-53.1	60.6	577.9	26.3	1.000014		
75000.0	37.5	-52.9	59.3	578.2	1.000014			
75500.0	36.7	-52.7	57.9	578.5	1.000013			

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 4051.00 FT MSL
29 JULY 83 0800 MDT
ASCENSION NO. 103

MANDATORY LEVELS
210030103
JALLEN

GEOGRAPHIC COORDINATES
33.16712 LAT UEG
106.49511 LON DEG

TABLE 12

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE			RHUM. PERCENT	WIND DATA	
		AIR DEGREES	DEWPOINT CENTIGRADE	DIR/DIR DEGREES(TN)		SPEED KNOTS	
850.0	5031.	25.0	6.2	30.	31.1	7.1	
800.0	6766.	21.9	7.7	40.	54.0	7.0	
750.0	8598.	18.9	4.8	39.	113.1	6.2	
700.0	10526.	14.2	1.5	42.	106.3	14.1	
650.0	12561.	8.8	-0.6	52.	109.3	12.4	
600.0	14713.	3.0	-3.4	63.	113.9	16.7	
550.0	17003.	-3.2	-4.0	94.	111.5	11.3	
500.0	19463.	-7.4	-7.9	96.	105.0	5.2	
450.0	22134.	-13.0	-14.1	91.	118.7	0.1	
400.0	25052.	-17.7	-24.3	56.	129.0	9.5	
350.0	28289.	-21.4	-35.0	36.	144.1	13.1	
300.0	31916.	-32.3	-41.5	39.	125.4	11.9	
250.0	36042.	-42.6			154.5	12.3	
200.0	40856.	-54.9			174.0	14.4	
175.0	43622.	-59.5			149.5	10.2	
150.0	46746.	-65.4			202.4	15.9	
125.0	50346.	-70.0			182.5	10.0	
100.0	54667.	-73.5			9999.0	9999.0	
80.0	59029.	-66.6			9999.0	9999.0	
70.0	61737.	-58.9			9999.0	9999.0	
60.0	64911.	-58.9			9999.0	9999.0	
50.0	68673.	-57.7			9999.0	9999.0	
40.0	73345.	-53.4			87.8	27.3	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 5912.71 FEET MSL
29 JULY 83
ASCENSION NO. 42 0915 MDT

SIGNIFICANT LEVEL DATA

2100290042
EAST-2W/CHERRY

GEODETIC COORDINATES
32.89927 LAT DEG
136.40591 LON DEG

TABLE 13

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE METERS MSL	TEMPERATURE DEGREES CENTIGRADE	AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
885.0	3912.7	26.8	9.6	34.0
861.0	4044.2	27.4	6.6	27.0
850.0	5079.7	24.5	10.0	40.0
812.4	6377.8	22.5	9.0	42.0
802.8	6717.4	22.0	6.5	42.0
765.2	8081.3	19.8	6.5	42.0
700.0	10578.8	14.2	2.5	45.0
643.2	12904.6	8.5	-8	52.0
562.4	16165.8	-8	-2.5	68.0
517.2	18672.6	-5.7	-6.9	91.0
500.0	19544.1	-7.0	-7.5	96.0
472.3	21001.4	-9.7	-10.1	97.0
432.6	23214.4	-14.4	-16.1	87.0
413.3	24352.2	-15.0	-29.0	29.0
400.0	25164.5	-16.2	-27.2	38.0
384.2	26159.5	-18.1	-27.6	43.0
361.1	27675.3	-21.2	-35.9	25.0
327.8	30000.4	-26.7	-38.3	32.0
300.0	32080.0	-31.6	-40.0	43.0
264.4	34984.5	-39.0	-47.4	40.0
250.0	36240.4	-42.4		
210.9	39752.6	-51.5		
208.7	40177.1	-51.2		
200.0	41084.8	-53.4		
184.9	42741.7	-55.6		
156.1	46236.1	-63.2		
150.0	47041.4	-64.7		
133.5	49367.5	-68.3		
129.1	50030.3	-68.5		
116.7	52017.2	-70.5		
112.9	52665.4	-70.5		
108.7	53409.1	-69.8		
100.0	55044.1	-70.9		
95.3	55983.3	-71.7		
91.5	56781.6	-68.7		
82.3	58876.1	-68.7		
75.3	60562.2	-62.0		
70.0	62160.0	-59.9		
55.5	66943.9	-60.3		
50.0	69105.7	-57.9		

STATION ALTITUDE 5912.75 FEET MSL
29 JULY 1983 0915 MDT
ASSTATION NO. 42

SIGNIFICANT LEVEL DATA
2100290042
EAST-28/CHERRY

GEODETIC COORDINATES
32.89927 LAT DEG
136.40591 LON DEG

TABLE 13 CON'T

PRESSURE GEOMETRIC MILLIBARS MSL FEET	TEMPERATURE DEGREES CENTIGRADE	REL.HUM. PERCENT
410.3 73655.9	-52.5	

STATION ALTITUDE 5,912.75 FEET MSL
29 JULY 83 0915 MDT
ASCENSION NO. 42

UPPER AIR DATA
2100290042
EAST-28/CHLRY
TABLE 14

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	REFLUM. GM/CURIC METER	SPD OF SIGHT KNOTS	WIND DATA WIND DIRECTION DEGREES(TTN)	INDEX OF REFRACTION
3912.7	885.0	26.8	9.0	34.0	1022.6	676.4	340.0	2.9
4000.0	882.5	27.2	7.8	29.4	1018.6	676.7	342.0	2.8
4500.0	867.2	26.1	8.5	32.7	1004.6	675.6	356.2	2.4
5000.0	852.3	24.7	9.3	39.0	991.4	674.2	14.4	2.2
5500.0	837.6	23.9	9.7	40.6	977.2	673.2	34.0	2.3
6000.0	822.2	23.1	9.3	41.4	962.8	672.3	55.5	2.2
6500.0	806.9	22.3	8.3	42.0	948.7	671.4	78.3	2.4
7000.0	794.9	21.5	8.1	42.0	934.8	670.5	99.6	3.1
7500.0	781.0	20.7	7.4	42.0	921.2	669.5	111.9	3.8
8000.0	767.4	19.9	6.6	42.0	907.7	668.6	120.8	4.3
8500.0	753.9	18.9	5.9	42.5	895.2	667.3	124.9	4.9
9000.0	740.5	17.7	5.0	43.1	882.9	665.9	127.0	5.5
9500.0	727.5	16.6	4.2	43.7	870.8	664.6	115.3	6.6
10000.0	714.6	15.5	3.4	44.3	853.9	663.3	106.0	8.0
10500.0	702.0	14.4	2.6	44.9	847.1	661.9	99.2	9.7
11000.0	689.4	13.2	1.9	46.3	835.5	660.5	96.0	11.1
11500.0	676.9	11.9	1.2	47.8	824.1	659.0	95.4	11.8
12000.0	664.7	10.7	0.5	49.3	812.8	657.6	96.2	12.5
12500.0	652.7	9.5	-0.2	50.8	801.7	656.1	97.5	13.3
13000.0	640.9	8.2	-0.8	53.1	790.8	654.6	99.5	14.1
13500.0	629.0	6.8	-0.7	58.6	780.0	653.0	100.9	14.9
14000.0	617.4	5.4	-0.9	64.1	769.5	651.3	102.8	15.3
14500.0	606.0	4.0	-1.1	69.6	759.1	649.7	104.5	15.5
15000.0	594.8	2.5	-1.4	75.1	749.0	648.0	106.2	15.0
15500.0	583.7	1.1	-1.8	80.7	738.9	646.3	108.8	14.7
16000.0	572.9	-0.3	-2.3	86.2	729.1	644.6	112.4	14.4
16500.0	562.1	-1.5	-3.1	88.4	718.4	643.2	112.8	14.0
17000.0	551.5	-2.4	-4.0	89.0	707.4	642.0	111.4	13.4
17500.0	541.0	-3.4	-4.9	89.6	696.6	640.6	105.9	12.6
18000.0	530.7	-4.4	-5.7	90.2	685.9	639.6	99.3	11.8
18500.0	520.0	-5.4	-6.0	90.8	675.5	638.4	91.5	10.8
19000.0	510.7	-6.2	-7.1	92.9	664.6	637.4	83.5	10.0
19500.0	500.9	-6.9	-7.5	95.7	653.7	636.5	82.1	9.1
20000.0	491.2	-7.8	-8.3	96.3	643.3	635.4	84.0	8.5
20500.0	481.7	-8.8	-9.2	96.7	633.1	634.2	93.5	8.4
21000.0	472.5	-9.7	-10.1	97.0	623.1	633.1	97.5	8.5
21500.0	463.0	-10.8	-11.4	94.7	613.5	631.7	96.9	8.6
22000.0	454.1	-11.8	-12.8	92.5	604.0	630.4	97.7	8.5
22500.0	445.0	-12.9	-14.1	90.2	594.6	629.0	99.3	8.3
23000.0	436.3	-13.9	-15.5	88.0	585.4	627.7	118.5	8.6

GEODETIC COORDINATES
32.89927 LAT UEG
136.40591 LON UEG

STATION ALTITUDE 3,120.75 FEET MSL
29 JULY 63
ASCENSION NO. 420915 MDT

UPPER AIR DATA
2100290042
EAST-20/CHERRY

TABLE 14 CON'T

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	REL.HUM. PERCENT	REL.HUM. PERCENT	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND KNOTS	WIND DATA WIND DIRECTION DEGREES (TN)	SPD KNOTS	INDEX OF REFRACTION
23500.0	427.7	-14.6	-18.4	72.4	575.4	626.9	134.7	10.1	1.000136		
24000.0	419.2	-14.8	-25.0	47.0	564.8	626.4	145.9	12.9	1.000131		
24500.0	410.8	-15.2	-26.6	30.6	554.9	625.8	150.3	15.0	1.000127		
25000.0	402.7	-16.0	-27.5	36.2	545.1	625.0	149.1	15.5	1.000125		
25500.0	394.6	-16.8	-27.3	39.7	536.0	623.9	148.2	15.4	1.000123		
26000.0	386.7	-17.8	-27.5	42.2	527.2	622.7	147.5	14.6	1.000121		
26500.0	378.9	-18.8	-29.3	39.0	518.0	621.5	146.6	13.8	1.000119		
27000.0	371.2	-19.8	-31.9	33.0	510.3	620.2	139.7	13.1	1.000116		
27500.0	363.7	-20.8	-34.8	27.1	502.0	616.9	136.0	13.1	1.000114		
28000.0	356.3	-22.0	-36.2	26.0	493.9	617.5	133.0	13.4	1.000112		
28500.0	348.9	-23.2	-36.7	27.5	486.1	616.1	133.5	13.6	1.000110		
29000.0	341.7	-24.3	-37.2	29.0	478.3	614.6	133.8	13.7	1.000108		
29500.0	334.7	-25.5	-37.8	30.5	470.7	613.1	129.1	13.6	1.000106		
30000.0	327.8	-26.7	-38.3	32.0	463.2	611.7	124.8	13.6	1.000105		
30500.0	320.9	-27.9	-38.8	34.6	455.7	610.2	122.1	13.5	1.000103		
31000.0	314.2	-29.0	-39.0	37.3	448.3	608.7	119.9	13.5	1.000101		
31500.0	307.6	-30.2	-39.4	39.9	441.0	607.3	119.3	13.5	1.000099		
32000.0	301.1	-31.4	-39.9	42.5	433.8	605.8	118.9	13.7	1.000098		
32500.0	294.6	-32.7	-41.0	42.6	426.7	604.2	119.8	14.8	1.000096		
33000.0	288.3	-33.9	-42.3	42.1	419.7	602.6	120.3	15.7	1.000094		
33500.0	282.1	-35.2	-43.6	41.5	412.9	601.0	119.5	15.7	1.000093		
34000.0	276.0	-36.5	-44.9	41.0	406.2	599.4	119.0	15.5	1.000091		
34500.0	270.0	-37.8	-46.2	40.5	399.6	597.7	119.2	13.8	1.000090		
35000.0	264.2	-39.0	-47.6	39.5*	393.1	596.1	119.7	12.1	1.000088		
35500.0	258.4	-40.4	-53.2	23.6**	386.7	594.4	122.1	10.9	1.000086		
36000.0	252.7	-41.7	-61.1	7.7**	380.4	592.6	125.1	9.7	1.000085		
36500.0	247.0	-43.0			374.0	591.0	128.6	10.1	1.000083		
37000.0	241.4	-44.3			367.5	589.4	131.8	10.6	1.000082		
37500.0	236.0	-45.5			361.1	587.8	133.0	12.1	1.000080		
38000.0	230.6	-46.7			354.8	586.2	133.9	13.7	1.000079		
38500.0	225.4	-47.9			348.7	584.6	136.1	15.3	1.000078		
39000.0	220.3	-49.2			342.6	583.0	138.2	16.7	1.000076		
39500.0	215.3	-50.4			336.7	581.5	140.1	17.8	1.000075		
40000.0	210.4	-51.4			330.6	580.1	142.2	17.6	1.000074		
40500.0	205.6	-52.0			323.8	579.4	144.3	17.5	1.000072		
41000.0	200.8	-53.2			318.0	577.8	146.5	16.3	1.000071		
41500.0	196.1	-54.0			311.7	576.8	149.0	15.0	1.000069		
42000.0	191.5	-54.6			305.3	575.9	151.4	14.5	1.000068		
42500.0	187.2	-55.3			299.0	575.0	153.7	14.4	1.000067		
43000.0	182.6	-56.2			293.2	573.9	156.4	14.3	1.000065		

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 5,127.75 FT MSL
29 JULY 83 0915 MDT
ASCENSION NO. 42

UPPER AIR DATA
2100290042
EAST-23/CHERRY

GEOGRAPHIC COORDINATES
32.89927 LAT DEG
136.40591 LON DEG

TABLE 14 CON'T

GEOPHYSIC ALTITUDE FT SL FEE	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA SPEED KNOTS	WIND DATA DIRECTION DEGREES (T)	INDEX OF REFRACTION
43500.0	170.2	-57.2	287.6	572.4	159.2	14.4
44000.0	174.0	-58.3	282.1	571.0	163.1	14.2
44500.0	169.8	-59.4	276.8	569.5	167.8	13.8
45000.0	165.7	-60.5	271.5	568.1	172.4	13.5
45500.0	161.8	-61.6	266.4	566.6	177.1	13.0
46000.0	157.9	-62.7	261.4	565.2	182.4	12.7
46500.0	154.1	-63.7	256.3	563.8	187.8	13.1
47000.0	150.3	-64.6	251.1	562.6	192.1	13.7
47500.0	146.6	-65.4	245.8	561.5	195.8	14.5
48000.0	142.0	-66.2	240.6	560.5	198.1	15.0
48500.0	139.4	-67.0	235.6	559.4	198.1	15.0
49000.0	136.0	-67.7	230.6	558.4	197.4	15.0
49500.0	132.6	-68.3	225.6	557.5	192.5	15.1
50000.0	129.3	-68.5	220.1	557.3	187.6	15.4
50500.0	126.1	-69.0	215.1	556.7	181.6	16.9
51000.0	122.9	-69.5	210.2	556.0	176.7	18.6
51500.0	119.6	-70.0	205.4	555.3	172.0	20.3
52000.0	116.8	-70.5	200.8	554.6	168.3	21.8
52500.0	113.9	-70.5	195.7	554.6	167.1	21.6
53000.0	111.0	-70.9	190.5	555.0	166.1	21.2
53500.0	108.2	-69.2	185.4	555.5	167.6	18.4
54000.0	105.5	-70.2	181.0	555.0	169.5	15.6
54500.0	102.8	-70.5	176.8	554.5	163.8	12.0
55000.0	100.2	-70.9	172.6	554.1	153.2	8.5
55500.0	97.7	-71.3	168.6	553.5	126.5	8.8
56000.0	95.2	-71.6	164.6	553.0	105.6	10.9
56500.0	92.8	-69.8	159.0	555.6	95.7	13.9
57000.0	90.5	-68.7	154.2	557.0	89.7	17.3
57500.0	88.2	-68.7	150.3	557.0	88.9	19.6
58000.0	86.0	-68.7	146.6	557.0	89.2	21.5
58500.0	83.9	-68.7	142.9	557.0	95.3	22.3
59000.0	81.8	-68.2	139.1	557.7	104.2	23.0
59500.0	79.8	-66.4	134.4	560.2	114.1	23.0
60000.0	77.8	-64.5	129.9	562.8	125.8	22.8
60500.0	75.9	-62.6	125.6	565.3	133.8	21.8
61000.0	74.1	-61.5	121.9	566.7	136.7	18.0
61500.0	72.3	-60.8	118.0	567.7	138.5	14.6
62000.0	70.5	-60.1	115.4	568.6	130.1	12.3
62500.0	68.9	-59.9	112.5	568.9	118.4	10.4
63000.0	67.2	-60.0	109.8	568.8	110.6	11.2

STATION ALTITUDE 3,912.75 FEET MSL
 29 JULY 83 0915 MDT
 ASCENSION NO. 42

UPPER AIR DATA
 2100290042
 EAST-28/CHERRY

GEODETIC COORDINATES
 32°8'9.27 LAT DEG
 136°40'59.1 LONG DEG

TABLE 14 CONT'

GEODETIC ALTITUDE MSL FFL	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	SPD OF SOUND METER KNOTS	WIND DATA DIRECTION DEGREES WEST KNOTS	INDEX OF REFRACTION
63500.0	62.6	-60.0			107.2	104.0	12.2 1.000024
64000.0	64.0	-60.1			104.7	96.1	13.5 1.000023
64500.0	62.5	-60.1			102.2	89.3	15.1 1.000023
65000.0	61.0	-60.1			99.7	89.1	17.3 1.000022
65500.0	59.5	-60.2			97.4	91.2	19.9 1.000022
66000.0	58.1	-60.2			95.1	92.6	21.4 1.000021
66500.0	56.7	-60.3			92.8	95.6	21.8 1.000021
67000.0	55.4	-60.2			90.6	94.1	22.0 1.000020
67500.0	54.0	-59.7			88.2	92.7	21.6 1.000020
68000.0	52.7	-59.1			85.8	91.2	21.2 1.000019
68500.0	51.5	-58.6			83.6	90.5	21.8 1.000019
69000.0	50.3	-58.0			81.4	89.8	22.5 1.000018
69500.0	49.1	-57.4			79.3	90.7	23.4 1.000018
70000.0	47.9	-56.8			77.2	92.2	24.4 1.000017
70500.0	45.8	-56.2			75.2	93.6	25.6 1.000017
71000.0	45.7	-55.7			73.2	94.8	27.1 1.000016
71500.0	44.6	-55.1			71.3	95.3	28.7 1.000016
72000.0	43.6	-54.5			69.4	97.1	1.000015 1.000015
72500.0	42.6	-53.9			67.6	97.9	1.000015 1.000015
73000.0	41.6	-53.3			65.9	97.7	1.000015 1.000015
73500.0	40.6	-52.7			64.2	97.4	1.000014

STATION ALTITUDE 3912.75 FEET MSL
29 JULY 83 0915 MDT
ASCENSION NO. 42

MANDATORY LEVELS
2100290042
EAST-20 CHEMRY
ASCENSION NO.

GEOGRAPHIC COORDINATES
32.89927 LAT DEG
136.40591 LON DEG

TABLE 15

MILLIBARS	FEET	PRESSURE GEOPOTENTIAL		TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA	
		MMBARS	FEET				DIRECTION DEGREES (IN)	SPEED KNOTS
850.0	5076.	24.5	10.0	40.	42.	17.5	2.2	
800.0	6812.	21.8	8.4	42.	93.0	2.8		
750.0	8641.	18.5	5.6	43.	125.6	5.1		
700.0	10569.	14.2	2.5	45.	98.4	10.0		
650.0	12605.	9.2	-4	51.	97.8	13.5		
600.0	14761.	3.2	-1.3	73.	105.4	15.2		
550.0	17053.	-2.6	-4.1	89.	110.9	13.3		
500.0	19517.	-7.0	-7.5	96.	82.0	9.1		
450.0	22192.	-12.3	-13.4	91.	98.5	8.4		
400.0	25123.	-16.2	-27.2	38.	148.8	15.7		
350.0	28380.	-23.0	-36.6	27.	133.4	13.5		
300.0	32022.	-31.6	-40.0	43.	119.1	13.8		
250.0	36161.	-42.4			126.7	9.9		
200.0	40985.	-53.4			146.8	16.1		
175.0	43779.	-58.1			162.0	14.3		
150.0	46914.	-64.7			192.3	13.7		
125.0	50522.	-69.1			180.1	17.4		
100.0	54874.	-70.9			152.7	6.4		
80.0	59243.	-66.6			112.1	23.1		
70.0	61947.	-59.9			127.4	11.7		
60.0	65104.	-60.2			90.5	14.9		
50.0	68846.	-57.9			89.7	22.6		

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

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EDITING